UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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January 19, 2001

Mr. Frank Finch, P.E.
Executive Director
SFWMD
PO Box 24680
3301 Gun Club Road
West Palm Beach, FL 33416-4680

Dear Mr. Finch:

The Environmental Protection Agency (EPA) has reviewed the final 2001 Everglades Consolidated Report (2001 Report) and we would like to take this opportunity to offer some comments and observations. Let me begin by commending the South Florida Water Management District, the Florida Department of Environmental Protection and all those who assisted in putting the 2001 Report together. It provides an excellent **status** report of all the actions that are taking place concerning the restoration of the Everglades. It also identifies the steps that remain in order the **meet** the mandates of the Everglades Forever Act (EFA), so that by December 31, 2006, ".... water delivered to the Everglades Protection Area achieves state water quality standards, including the phosphorus criterion, in all parts of the Everglades Protection Area." EPA's comments will focus on two areas, the development of the numeric phosphorus criterion and measurement methodology, and the status of the Phase 2 advanced technology research.

EPA had provided comments to the September 2000 draft Report, noting that EPA believed adequate information currently exists to set the numeric phosphorus criterion at 10 ppb. This conclusion was based on a review of available scientific publications we had done in 1999 to support our approval of the Miccosukee Tribe of Indians of Florida's proposed numeric phosphorus criterion for their Federal Reservation within WCA-3A. At that time we had, reviewed over 300 scientific publications relevant to this issue and concluded that 10 ppb was not overly protective of the resource. Attached to this letter, we are providing an update of our literature survey concerning the numeric phosphorus criterion, a review of the more recent work presented in the 2001 Consolidated Report and a discussion of issues related to how the criterion should be measured to be consistent with and therefore approvable under the Clean Water Act (CWA).

Based on this review EPA has reconfirmed its determination that a numeric phosphorus criterion of 10 ppb is a scientifically defensible value that is not overly protective of the oligotrophic Everglades. Although some data have identified long-term concentrations within the Everglades as low as 5.0 ppb, EPA's review identified no currently available published scientific

information that documented changes in the natural flora or fauna resulting from total phosphorus concentrations increasing from 5 ppb to 10 ppb. Also, several sources of scientific information indicate that as phosphorus concentrations exceed 10 ppb, changes to flora and fauna occur. This lead to our conclusion that 10 ppb is the appropriate numerical interpretation of the narrative criterion for phosphorus while a number above 10 ppb would not be protective.

An equally important issue relates to how the criterion should be measured. Under the CWA, the first step is for a state to set a designated use for a water body. Then water quality standards (WQSs) are developed to protect the designated use of that water body and apply to the entire area that the designated use protects. There are circumstances where the standard would only apply to a portion of the water body, but the designated use and water quality standards would have to specifically reflect that. In this case, all of the Everglades has been designated as Class III, and the narrative nutrient criterion already applies to this entire area. Therefore absent a variance or some other moderating provision, the numeric interpretation of the phosphorus criterion will also apply to the entire Class III water body.

There has been some confusion over how the numeric criterion should be applied in the Everglades. In the Everglades Forever Act it states: “Compliance with the phosphorus criterion shall be based upon a long-term geometric mean of concentration levels to be measured at sampling stations recognized from the research to be reasonably representative of receiving waters in the Everglades Protection Area, and so located so as to assure that the Everglades Protection Area is not altered so as to cause an imbalance in natural populations of aquatic flora and fauna and to assure a net improvement in the areas already impacted.” (Chapter 373.4592(4)(e)(3), Florida Statutes). EPA has never reviewed this statement under the CWA to see if it is consistent with the requirements of the CWA since that review would depend upon how the statement was interpreted and implemented as part of the proposed numeric phosphorus criterion.

However, although we have not seen a definitive proposal from the state, we have been concerned with some of the draft language we have reviewed. Under some of these scenarios, areas with higher levels of phosphorus are averaged with areas that have lower levels. Depending on how this is done, this could allow large areas of the Everglades to exceed the numeric criterion, while at the same time being technically in compliance with the water quality standard since the phosphorus concentrations across various locations would be averaged together. It has been suggested that this approach would allow for discharges of phosphorus from the Stormwater Treatment Areas at levels higher then the numeric criterion to technically be in compliance. As noted in the attached memorandum, modeling shows the potential effect of this approach. This approach would not be approvable under the CWA since it would result in the numeric criterion being exceeded in areas of the receiving waters.

That is not to say that long-term geometric means measured over a series of stations would not be approvable under the CWA. Given the correct location of stations, clustered for analysis, this approach could be approvable. My staff is available to continue to work on this issue.

The next issue relates to how a discharge limit is calculated to insure that the discharge is not causing a violation of WQSs in the receiving water. This requires an understanding of the relationship between the discharge and the downstream surface water. We recognize there have been concerns with being able to meet the numeric criterion of 10 ppb in the discharge at the end of the pipe, but we do not believe we have done enough research to draw any conclusions on this. The present level of knowledge we have concerning the green technologies, STA optimization and other "phase 2" technologies is limited, and we would encourage this research be pushed forward as quickly as possible so the appropriate technology can be chosen. When we are able to determine what level of treatment we can get from the fully optimized STAs and appropriate advanced treatment, only then should we look at what regulatory relief is appropriate such as moderating provisions currently available under state and federal law.

I hope this information helps move this process forward. As we continue our efforts under the 1992 Settlement Agreement and the EFA, and we move forward in the implementation of the Comprehensive Everglades Restoration Project, the EPA's Everglades efforts will be focused out of our South Florida Office, and I would encourage you to continue these discussions with Richard Harvey. EPA remains fully committed to working closely with the state and all of our partners to insure that the Everglades restoration continues to move forward.

Sincerely,

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John H. Hankinson, Jr.
Regional Administrator

cc: David Struhs

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